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jaws were brought to light, so that there cannot now be a reasonable doubt that all are parts of the same bird. The possession of teeth and biconcave vertebræ, although the rest of the skeleton is entirely avian in type, obviously implies that these remains cannot be placed in the present groups of birds, and hence a new subclass, *Odontornithes*, is proposed for them. The order may be called *Ichthyornithes*.

The species lately described by the writer as *Ichthyornis celer*, also had biconcave vertebræ, and probably teeth. It proves to be generically distinct from the type species of this group, and hence may be named *Apatornis celer* Marsh. It was about the same size as *Ichthyornis dispar*, but of more slender proportions. The geological horizon of both species is essentially the same. The only remains of them at present known are in the museum of Yale College.

The fortunate discovery of these interesting fossils is an important gain to palæontology, and does much to break down the old distinctions between birds and reptiles, which the Archæopteryx has so materially diminished. It is quite probable that that bird, likewise, had teeth and biconcave vertebræ, with its free metacarpals and elongated tail. — O. C. Marsh, *reprinted from advance sheets of the American Journal of Science and Arts for February*, 1873.

ANTHROPOLOGY.

Change in the Form of Skulls with age.—The hypothesis, at one time so universally held, says Virchow, that all longheaded skulls were Celtic, may now be taken as an example of how easy it is to overstep the mark, and of the caution that should be exercised in anthropological inquiries. Any conclusions that may be drawn from the forms of skulls of early times are quite open to question. The influence of culture has hitherto been too little considered. Schaffhausen has observed that the growth of the skull continues to a later period than was formerly supposed, and that it increases in breadth in old age. This explains how it happens that so many more of the long and narrow skulls have been traced to earlier times, and that the proportion of the broader ones increases in the quaternary epoch. In the case of the broad skulls the brain has usually attained fuller development, while the most remarkable long and narrow skulls are to be met with among lower races. For this reason, then, peculiarities of races become obliterated in time. — *The Academy.*

MICROSCOPY.

A Field-stage for Clinical Microscopes.—Dr. R. H. Ward called attention at the Dubuque meeting of the American Association, to a contrivance by which he is able to employ in field work the ordinary form of clinical microscopes. Such microscopes are but little available for opaque objects, the small opening sometimes made through the tube just above the stage being objectionable in respect to focussing and being nearly useless for illuminating purposes by ordinary daylight. The new field-stage is a perforated brass stage-plate occupying the position of the object and bearing a contrivance by which the object is carried at the distance of about an inch lower down. In the instrument shown to the Association, which was home-made and could be made by any one in a few moments, a heavy brass wire was carried down from the brass stage-plate, bent so as to form a rectangular frame on which the object-slide or compressor could rest, and then bent back to the stage-plate again. It was attached to the stage-plate by being bent at right angles and soldered along the sides of the plate to its under surface. The object was held upon this accessory stage by slender wire springs also soldered fast. With this new stage the clinical microscope becomes available for low powers and opaque objects.

Pigott's "Searcher" in the Binocular.—Dr. John Barker exhibited to the Dublin microscopical club a one-inch objective employed as a "searcher," as suggested by Dr. Pigott. His object was to propose its application to the binocular microscope by inserting a one-inch objective in each body, and thus attain in connection with stereoscopic vision, the high amplifying power of such arrangements.

Under-corrected Objectives.— Objectives considerably under-corrected as to color are now furnished by a variety of leading makers and are generally preferred by critical microscopists. They not only work better for photography and with monochromatic illumination, but they excel for ordinary work those lenses in which the corrections for spherical aberration are sacrificed for the sake of a more perfect achromatism. Powell and Lealand, Tolles